

## **REMARKS**

Claims 1-46 are pending in the application, with claims 1, 19, 22, 31-34, 39, 41, and 42 being currently amended.

Independent claim 1 has been amended to more clearly define over the art of record. In particular, claim 1 now recites a wave absorber that includes, in part, a conduct layer which is composed of an electric conductor and reflects EM waves, and a high-resistance conductor layer which has a surface resistivity within a prescribed range and converts EM waves to heat. Claim 1 also now recites that the conduct layer reflects EM waves passed through the pattern layer, the second dielectric layer, the high-resistance conductor layer and the first dielectric layer. Support for the amendments can be found throughout the application.

Independent claims 19, 22, 31-33, 39, 41, and 42 are directed to either wave absorbers or wave absorber manufacturing methods and have been amended like claim 1 by generally specifying that the conduct layer of the wave absorber reflects EM waves which are passed through other layers, and the middle layer of the wave absorber converts EM waves to heat. Since each of the independent claims are amended like claim 1, the remarks herein will focus on independent claims 1 (with specific mention of independent claims 19, 22, 31-33, 39, 41, and 42 where thought to be useful), but without waiver or right to present additional arguments, including as directed to one or more of the dependent claims should that become necessary.

Dependent claim 34 has been amended to remove the duplicative language recited therein.

### 35 U.S.C. §103 rejections

In the Official Action, each of the previously pending independent claims stand rejected as being unpatentable either over Broderick U.S. Patent No. 5,576,710 ("Broderick") in view of Kasevich U.S. Patent No. 5,214,432 ("Kasevich") alone or further in combination with one or more of Dvorak U.S. Patent Application Publication No. 2004/0021597 ("Dvorak"), Sakurai U.S. Patent Application Publication No. 2003/0044623 ("Sakurai"), Okayama U.S. Patent Application Publication No. 2003/0107025 ("Okayama"), Kim U.S. Patent Application Publication No. 2004/0160486 ("Kim"), and Abe U.S. Patent No. 6,456,819 ("Abe"). Applicants respectfully disagree with the rejections, particularly in view of claim 1 (and claims 19, 22, 31-33, 39, 41, and 42) as now amended.

Broderick is the primary reference relied upon by Examiner in each of his rejections. To that end, with a focus on claim 1 of the present application (with specific mention of independent claims 19, 22, 31-33, 39, 41, and 42 where thought to be useful), Applicants submit that even if Broderick is combined with the references of record referred to above, claims 1-45 of the present application are allowable thereover, as is explained next.

Independent claim 1 has been amended so that the wave absorber thereof includes the following layers (i) to (v), and in this order:

(i) A conductor layer which can reflect EM waves passed through following (ii) to (v) layers.

(ii) A first dielectric layer composed of a dielectric material in one layer or in multiple layers.

(iii) A resistance layer which can convert EM waves to heat.

(iv) A second dielectric layer composed of a dielectric material in one layer or in multiple layers.

(v) A pattern layer having multiple patterns composed of a conductor.

[underlining for emphasis].

In the Official Action, Examiner alleges that Broderick teaches a wave absorber having the following layers:

(i) A grid like conduct layer composed of an electric conductor (Figs 1 and 2 of Broderick, item 32).

(ii) A first dielectric layer composed of dielectric material in one layer or in multiple layers (Fig 1 of Broderick, item 34).

(iii) A high-resistance conductor layer having a surface resistivity within a prescribed range (Fig 1 of Broderick, item 30).

(iv) A second dielectric layer composed of a dielectric material in one layer or in multiple layers (Fig 1 of Broderick, item 28 and/or 26).

Examiner, however, recognizes that Broderick fails to disclose (v) a pattern layer wherein each pattern in the pattern layer differs in either or both of size and form relative to another adjacent pattern. In an effort to fill the teaching void of Broderick, Examiner resorts to Kasevich as well as Dvorak. Regardless, neither Broderick, Kasevich, nor Dvorak (or any of the additional references cited in the Official Action) alone or in combination disclose a wave absorber structure including the (i) and (iii) layers now required by independent claim 1. *In re*

*Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (All the claim limitations must be taught or suggested by the prior art.); *See also* MPEP §2143.03 (citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970))(To establish *prima facie* obviousness of a claimed invention, it is certainly well established that “all words in a claim must be considered when judging the patentability of that claim against the prior art or suggested by the prior art.” (emphasis added)).

With specific reference to Broderick, unlike the present invention, the circuit analog layers 30 and 32 in Fig. 2 of Broderick have similar characteristics to each other. *See* col. 5, lines 52 to col. 6, line 8. Broderick further discloses that the darkened pathways of each pattern of the circuit analog layers 30 and 32 shown in Figs. 2 and 3 indicate ink locations, that the pattern of Fig. 3 is not as dense as that of Fig. 2, and that each pattern is formed to absorb energy in a discrete frequency range. [underlining for emphasis]. It is also disclosed that a different absorption frequency range for each layer can be obtained by experimentally varying each of the parameters of the layers. In this way, the substantial function of the circuit analog layers 30 and 32 are the same. [underlining for emphasis]. And both circuit analog layers 30 and 32 absorb energy in a discrete frequency range. In view thereof, such a combination of the circuit analog layers 30 and 32 of Broderick is different from the combination of (i) a conductor layer which can reflect EM waves and (iii) a resistance layer which can convert EM waves to heat, as now required by claim 1 (and independent claims 19, 22, 31-33, 39, 41, and 42). And the additional art cited by Examiner fails to correct this deficiency.

In view thereof, Broderick further in combination with one or more of Kasevich, Dvorak, Sakurai, Okayama, Kim, and Abe fail to provide all of the elements of Applicants' claimed wave absorber or wave absorber manufacturing method. That is, a *prima facie* case of obviousness based on the cited art is not at all established insofar as the cited art, collectively, fails to disclose a wave absorber structure including the (i) and (iii) layers. Accordingly, the rejections of independent claim 1 (and independent claims 19, 22, 31-33, 39, 41, and 42) are overcome and must be withdrawn.

In addition, the remaining rejected dependent claims depend from one or more of corresponding independent claims 1, 19, 22, 31, 32, 33, 39, 41 and 42. Thus, Applicants submit that the Examiner's rejection of those claims is in error for at least the same reasons discussed above with respect to the independent claims. Furthermore, each of these dependent claims sets forth a unique combination of elements not disclosed or suggested by the combination of references.

For all of the above reasons, Applicants respectfully submit that independent claims 1, 19, 22, 31, 32, 33, 39, 41 and 42, along with their dependent claims, are allowable over the cited references.

### **Conclusion**

As a result of the remarks given herein, Applicants submit that the rejection of the pending claims has been overcome. Therefore, Applicants respectfully submit that this case is in condition for allowance and request allowance of the pending claims.

If Examiner believes any detailed language of the claims requires further discussion, Examiner is respectfully asked to telephone the undersigned attorney so that the matter may be promptly resolved. Applicants also have submitted all fees believed to be necessary herewith. Should any additional fees or surcharges be deemed necessary, Examiner has authorization to charge fees or credit any overpayment to Deposit Account No. 23-3000.

Respectfully submitted,  
WOOD, HERRON & EVANS, L.L.P.

By /Randall S. Jackson, Jr./  
Randall S. Jackson, Jr.  
Reg. 48,248

2700 Carew Tower  
Cincinnati, Ohio 45202  
(513) 241-2324  
FAX (513) 241-6234